### PATENT COOPERATION TREATY

## **PCT**

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| Applicant's or agent's file reference P801906/WO/1           |   |                    |                 | FOR FURTHER ACT  | CTION See Form PCT/IPEA/416                   |   |  |  |  |
|--|---|--------------------|-----------------|--|---|---|--|--|--|
| International application No.                                |   |                    |                 | International filing date (c                             | 'ay/month/year)                               | Priority date (day/month/year)                    |  |  |  |
| PCT/DE2004/001426  |   |                    |                 | 03.07.2004   |   | 08.07.2003  |  |  |  |
|  | International Patent Classification (IPC) or national classification and IPC  |                    |                 |  |   |   |  |  |  |
| B23C3/18, G05B19/00  |   |                    |                 |  |   |   |  |  |  |
| Applicant MTU AERO ENGINES GMBH                              |   |                    |                 |  |   |   |  |  |  |
| 1.   | <ol> <li>This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</li> </ol>                     |                    |                 |  |   |   |  |  |  |
| 2.   | This RE   | EPORT consists of  | of a total of   | 3  | sheets, including                             | g this cover sheet.                               |  |  |  |
| 3.   | This rep  | ort is also accom  | npanied by Al   | NNEXES, comprising:                                      |   |   |  |  |  |
|  | a. 🛛  | (sent to the a     | pplicant and    | to the International Burea                               | () a total of 1                               | sheets, as follows:                               |  |  |  |
|  | sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). |                    |                 |  |   |   |  |  |  |
|  | sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.               |                    |                 |  |   |   |  |  |  |
|  | b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))   |                    |                 |  |   |   |  |  |  |
| 1  | <del></del>   |                    |                 |  | , containing a sequence listing and/or tables |   |  |  |  |
|  | related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).  |                    |                 |  |   |   |  |  |  |
| 4.   | This rep  | port contains indi | ications relati | ing to the following items:                              |   |   |  |  |  |
|  | $\boxtimes$   | Box No. I          | Basis of the    | : report   |   |   |  |  |  |
|  |   | Box No. II         | Priority        |  |   |   |  |  |  |
|  |   | Box No. III        | Non-establi     | ishment of opinion with reg                              | ard to novelty, invent                        | tive step and industrial applicability            |  |  |  |
|  | Box No. IV Lack of unity  |                    |                 | ity of invention   | y of invention                                |   |  |  |  |
|  | $\boxtimes$   | Box No. V          |                 | statement under Article 35() and explanations supporting |   | elty, inventive step or industrial applicability; |  |  |  |
|  | Box No. VI Certain documents cited  |                    |                 | cuments cited  |   |   |  |  |  |
| Box No. VII Certain defects in the international application |   |                    |                 |  |   |   |  |  |  |
|  |   | Box No. VIII       | Certain obs     | servations on the internation                            | al application                                |   |  |  |  |
| Date of  | submissi  | on of the demand   | i               | Da   | te of completion of th                        | nis report  |  |  |  |
| L  |   |                    |                 |  |   |   |  |  |  |
| Name and mailing address of the IPEA/EP                      |   |                    |                 | Au   | thorized officer                              |   |  |  |  |
|  |   |                    |                 |  |   |   |  |  |  |
| Facsimile No.  |   |                    | Te              | lephone No.  |   |   |  |  |  |
|  |   |                    |                 |  |   |   |  |  |  |

Translation

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/DE2004/001426

| Box | No. I     |                                 | Basis of the report  |   |  |
|-----|-----------|---------------------------------|--|---|--|
| 1.  |           |                                 | to the language, this report is based on the internation der this item.  | al application in the language in v   | which it was filed, unless otherwise   |
|     |           | which                           | eport is based on translations from the original languag<br>is the language of a translation furnished for the purpo<br>international search (Rule 12.3 and 23.1(b))             |   | · ·  |
|     |           | 님                               | publication of the international application (Rule 12.4)   |   |  |
|     |           |                                 | international preliminary examination (Rule 55.2 and/o   | ·   |  |
| 2.  | recei     | iving Oj<br>report):<br>the int | to the elements of the international application, this reffice in response to an invitation under Article 14 are ernational application as originally filed/furnished scription: | eport is based on ( <i>replacement s</i><br>referred to in this report as "oi | heets which have been furnished to the riginally filed" and are not annexed to |
|     |           | pages                           | 1-6  |   | as originally filed/furnished  |
|     |           | pages'                          | *  | received by this Authority on   |  |
|     |           | pages                           |  |   |  |
|     | $\square$ | the cla                         |  |   |  |
|     |           |                                 |  |   | an animinally Clad/Granishad   |
|     |           | nos.                            |  |   | as originally filed/furnished  |
|     |           | nos.*                           |  |   | r with any statement) under Article 19 13.07.2005 with                         |
|     |           | nos.*                           | 1  | received by this Authority on   | telefax  |
|     |           | nos.*                           |  | received by this Authority on   |  |
|     | $\bowtie$ | the dr                          | awings:  |   |  |
|     |           | sheets                          | 1/2-2/2  |   | as originally filed/furnished  |
|     |           | sheets                          | *  | received by this Authority on   |  |
|     |           | sheets                          | *  | received by this Authority on   |  |
|     |           | a segu                          | nence listing and/or any related table(s) – see Suppleme   | ental Box Relating to Sequence L  | isting.  |
| 3.  | $\Box$    |                                 | mendments have resulted in the cancellation of:  |   | -  |
| 3.  | ш         |                                 |  |   |  |
|     |           | $\exists$                       | the description, pages   |   |  |
|     |           | 님                               | the claims, nos.   | <u>.</u>  |  |
|     |           |                                 | the drawings, sheets/figs  |   |  |
|     |           |                                 | the sequence listing (specify):  |   |  |
|     |           | Ш                               | any table(s) related to sequence listing (specify):  |   |  |
| 4.  |           |                                 | report has been established as if (some of) the amend<br>have been considered to go beyond the disclosure as fil   |   |  |
|     |           | Ш                               | the description, pages   |   |  |
|     |           |                                 | the claims, nos.   |   |  |
|     |           |                                 | the drawings, sheets/figs  |   |  |
|     |           |                                 | the sequence listing (specify):  |   |  |
|     |           |                                 | any table(s) related to sequence listing (specify):  |   |  |
| *   | If it     | —<br>ет 4 ар                    | plies, some or all of those sheets may be marked "supe   | erseded."   |  |

#### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/DE2004/001426

| Box No. V           |             | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |        |     |     |  |  |
|---------------------|-------------|---|--------|-----|-----|--|--|
| 1.                  | Statement   |   |        |     |     |  |  |
|                     | Novelty (N) |   | Claims | 1-7 | YES |  |  |
|                     |             |   | Claims |     | NO  |  |  |
| Inventive step (IS) |             | Claims  | 1-7    | YES |     |  |  |
|                     |             |   | Claims |     | NO  |  |  |
|                     | Industrial  | l applicability (IA)  | Claims | 1-7 | YES |  |  |
|                     |             |   | Claims |     | ио  |  |  |
|                     |             |   |        |     |     |  |  |

2. Citations and explanations (Rule 70.7)

D1, which is considered to represent the closest prior art, discloses a milling process from which the subject matter of claim 1 differs in its characterizing part.

Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)).

The problem addressed by the present invention may therefore be considered that of minimizing the computing input required for collision-free guidance of the tool.

The solution to this problem proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

D1 does not suggest how the computing input required for collision avoidance can be reduced by defining a collision contour associated with the tool path.

Claims 2-7 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.